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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,177	12/22/2000	Carina Maria Lind	1190-2110	8079

27045 7590 06/07/2004

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EXAMINER

SEFCHECK, GREGORY B

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,177

Applicant(s)

LIND, CARINA MARIA

Examiner

Gregory B Sefcheck

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5-10, 12-14, and 16-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka et al. (US006633538B1), hereafter Tanaka.

- In regards to Claims 1, 9, 10, 12, 14, and 16,

Tanaka discloses a node representation system and method for a plurality of nodes in an IP network (Title; Abstract; Col. 4, lines 62-65; claim 1/12 – method of designating a queue-responsible node in an IP network having plurality of nodes; claim 16 – system for queue-handling in an IP network having plurality of nodes).

Tanaka shows that a node is designated as a master node or a slave node based on the IP address uniquely assigned to that node (Abstract; Col. 4, lines 52-54; Col. 5, lines 11-15; claim 1/12/16/23 – utilizing IP addresses of plurality of nodes to dynamically designate a master node; claim 1/12/16/23 – designating all other nodes as slave nodes).

Referring to Fig. 1 and 10, Tanaka shows the master node maintaining a schedule table 112C (master queue), which defines when and how jobs are performed at each node (Col. 5, lines 60-65; claim 1/12/16/23 – maintaining the queue positions of all nodes in a master queue of master node).

Tanaka further discloses the detecting of node activations and failures in the network (changes; connections/disconnections; Col. 2, lines 43-58). Along with the disclosed resource duplication among the nodes, this provides dynamic configuration of the node representation system (Col. 2-3, lines 60-52; claim 9/10/12/14/15/16/23 – detecting changes in the number and identity of nodes connected to the network/cluster and repeating master designation).

- In regards to Claim 5,

Tanaka discloses a node representation method for a plurality of nodes in an IP network that covers all limitations of the parent claim.

Tanaka shows that each slave node is capable of functioning as master in the event of a failure to the active master (Col. 2, lines 38-43; Col. 12, lines 26-40; Col. 14, lines 50-61; claim 5 – each node is capable of functioning as master or slave).

- In regards to Claim 6, 7, 17, and 18,

Tanaka discloses a node representation system and method for a plurality of nodes in an IP network that covers all limitations of the parent claim.

Tanaka discloses a duplication resource process/unit at each node for duplicating a resource from the master node to the slave nodes (Col. 3, lines 20-25; claim 6/17 – maintaining a copy of the master queue at one or more slave nodes; claim 7/18 – maintaining master queue is performed at each slave node).

- In regards to Claim 8,

Tanaka discloses a node representation method for a plurality of nodes in an IP network that covers all limitations of the parent claim.

Referring to Figs. 4 and 5, Tanaka shows that, upon activation in the network, a slave node exchanges communications with the master node to obtain a virtual IP address, enabling the node to access the network (Col. 8-9, lines 40-21; claim 8 – each slave node requesting a queue position from master for access to shared network resources).

- In regards to Claim 13,

Tanaka discloses a node representation method for a plurality of nodes in an IP network that covers all limitations of the parent claim.

Tanaka shows that the method is capable of detecting the failure/disconnection of the master node (Col. 6, lines 23-30; claim 13 – detecting the disconnection of the master node from the network).

- In regards to Claims 19-21,

Tanaka discloses a node representation system for a plurality of nodes in an IP network that covers all limitations of the parent claim.

Tanaka discloses the method and system in a LAN/WAN environment (Col. 1, line 22; claim 19 – network comprises a LAN; claim 21 – network comprises a WAN).

Tanaka also shows utilizing virtual addressing within these environments (Col. 4, lines 38-67; claim 20 – network comprises a VLAN).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4 and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Aziz et al. (US006597956B1), hereafter Aziz.

- In regards to Claims 2-4,

Tanaka discloses a node representation method for a plurality of nodes in an IP network that covers all limitations of the parent claim.

Tanaka does not explicitly show designating a master node, where all nodes are capable of functioning as master or slave, by comparing numerical values of the node IP addresses, where the highest or lowest address is designated master.

Aziz discloses a method and apparatus for controlling an extensible computing system (Title). Aziz further discloses controlling each of these clusters through a master-slave relationship. The master ^segment manager is selected by comparing sequence numbers of all active segment managers, where the lowest or highest sequence number may be used to select the master (Col. 16, lines 27-35; claim 2 – designating performed by comparing numerical values of node IP addresses; claim 3 – node having the highest IP address is designated master; claim 4 – node having the lowest IP address is designated master).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system of Tanaka by designating the master node of the network by comparing node IP addresses and selecting the node with the highest or lowest address as the master, as shown by Aziz. This would provide a cost-effective way of differentiating and designating a master among the plurality of nodes, since each node is assigned a unique IP address.

- In regards to Claims 22 and 23,

Tanaka discloses a node representation system for a plurality of nodes in an IP network that covers the limitations of claim 23 shown above regarding claims 1, 12 and 16, and, with respect to claim 22, all limitations of parent claim 16.

Tanaka does not explicitly show the system comprising multiple clusters, each comprising a plurality of nodes.

Aziz discloses a method and apparatus for controlling an extensible computing system (Title). Aziz discloses selecting a master node from a plurality of nodes within multiple virtual server farms (clusters) created out of a wide scale computing fabric (Abstract; claim 22 – network comprises a cluster within an area network; claim 23 – system for queue-handling in an IP network comprising at least a first cluster and second cluster, each cluster comprising plurality of nodes)

It would have been obvious to one of ordinary skill in the art at the time of the invention to adapt the node representation system of Tanaka to the sub-divided system of Aziz, which contains multiple clusters having a plurality of nodes. This adaptation would provide each of the clusters shown by Aziz with the failure tolerance of Tanaka's node representation system.

- In regards to Claim 24 and 25,

Tanaka discloses a node representation system for a plurality of nodes in an IP network that covers all limitations of the parent claim.

Tanaka discloses a duplication resource process/unit at each node for duplicating a resource from the master node to the slave nodes (Col. 3, lines 20-25; claim 24 – maintaining a copy of the master queue at one or more slave nodes; claim 25 – maintaining master queue is performed at each slave node).

- In regards to Claims 26-28,

Tanaka discloses a node representation system for a plurality of nodes in an IP network that covers all limitations of the parent claim.

Tanaka discloses the method and system in a LAN/WAN environment (Col. 1, line 22; claim 26 – network comprises a LAN; claim 28 – network comprises a WAN).

Tanaka also shows utilizing virtual addressing within these environments (Col. 4, lines 38-67; claim 27 – network comprises a VLAN).

5. Claims 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Kang (US006658474B2).

- In regards to Claims 11 and 15,

Tanaka discloses a node representation method for a plurality of nodes in an IP network that covers all limitations of the parent claim.

Tanaka shows performing the functions of a failed/disconnected node by its monitoring node. Tanaka does not explicitly show removing the failed node from the master queue of the network.

Kang discloses a system and method of allocating node identification. Referring to Fig. 5, Kang discloses a node that disconnects from the network. The master node broadcasts a disconnect message informing the other network nodes that the disconnecting node is removed from network communication (Col. 6, lines 2-20; claim 11/15 – deleting queue positions of disconnected nodes from master queue).

It would have been an obvious design choice by one of ordinary skill in the art at the time of the invention to modify the method of Tanaka by deleting the queue/schedule position of a failed node in the network, thereby preventing the failed node from utilizing network resources that could be directed to active nodes.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Bell (US006678721B1) discloses a system and method for establishing a point-to-multipoint DSL network
- Thompson (US006192397B1) discloses a method for establishing a master-slave relationship in a peer-to-peer network
- Dawkins et al. (US006178445B1) discloses a system and method for determining which processor is the master processor in a symmetric multi-processor environment
- Quoc et al. (US006092214A) discloses a redundant network management system for a stackable fast Ethernet repeater
- Yuuki et al. (US005951683A) discloses a multiprocessor system and its control method
- Tattersall et al. (US005920267A) discloses a ring network system
- MacIntyre et al. (US005708962A) discloses a method reconfiguring a distributed communication system using allocation loading level
- Crosetto (US005590284A) discloses a parallel processing data network of master and slave transputers controlled by a serial control network
- Yoshiyama (US005461608A) discloses a ring network with temporary master node for collecting data from slave nodes during failure


- Kirkham (US005416777A) discloses a high speed polling protocol for multiple node network
- Literati et al. (US004939752) discloses distributed timing recovery for a distributed communication system

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B Sefcheck whose telephone number is 703-305-0633. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GBS
5-24-2004


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